

ABSTRACT

The present invention implements a magnetic disk drive usable under a wide range of temperature environment conditions, and a magnetic head assembly. The flying height of a magnetic head slider (1) can be controlled against a change of temperature so that the flying height of the magnetic head slider (1) is low at low temperatures and high at high temperatures, thereby the variations of the coercivity of a magnetic disk (2) can be cancelled. Further, by setting the rate of change of the crown value with respect to the change of temperature to 0.26 to 0.62 nm/ $^{\circ}$ C, the flying height can be controlled so that the flying height becomes low at low temperatures and high at high temperatures, while maintaining the uniformity of the profile of the flying height of the magnetic head slider (1) from the inner periphery to the outer periphery of the magnetic disk (2).